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Research Note

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE
INTERMOUNTAIN FOREST & RANGE EXPERIMENT STATION
OGDEN UTAH

U.S. Forest Service
Research Note INT-27 1964

UTAH'S FOREST AREA AND TIMBER VOLUME

John S. Spencer, Jr., Research Forester
Division of Forest Economics and Recreation Research

ABSTRACT

The comprehensive forest inventory of Utah completed in 1961 reports an area of 4 million acres of commercial forest land supporting 5.8 billion cubic feet of wood in sound live trees. The public owns 83 percent of this commercial forest area--principally in National Forests. Aspen, the most extensive commercial timber type, occupies 32 percent of the commercial forest area. Engelmann spruce produces the most sawtimber volume--almost 30 percent of the total for the State.

Utah's forest lands cover 14.9 million acres--28 percent of the land area of the State. Four million acres, or slightly more than one-fourth of the forested area, is commercially important for timber production. The remainder (10.9 million acres) is made up of 10.7 million acres that are incapable of producing trees of commercial size and quality, and 0.2 million acres that are productive but reserved from timber harvesting because they lie within the High Uintas Primitive Area or in National Parks and Monuments.

The public (i.e., Federal and State Government) owns 3.3 million acres of commercial forest land--83 percent of the total. The National Forests account for 83 percent of this publicly owned commercial forest land, followed by State lands (7 percent), Indian lands (5 percent), and lands administered by the Bureau of Land Management (5 percent).

Of the 0.7 million acres of commercial forest land in private holdings, 81 percent is on farms and ranches.

Aspen, the most extensive commercial timber type, occupies 1.3 million acres, or 32 percent of the commercial forest area. The fir-spruce type is next in area with 1.0 million acres (26 percent), followed by Douglas-fir (16 percent), lodgepole pine (14 percent), ponderosa pine (11 percent), and minor types (1 percent).

Sawtimber stands cover two-thirds of the commercial forest land. These stands support a volume of 18.1 billion board feet,[1] for an average volume per acre of 6,904 board feet.

Sawtimber and poletimber stands together occupy 3.8 million acres--94 percent of the commercial forest area. Their combined volumes total 5.8 billion cubic feet in sound live trees 5 inches d.b.h. and larger. Only 6 percent of the commercial forest area is in sapling-seedling stands or is nonstocked. The nonstocked area accounts for only 0.7 percent of the commercial forest land area in Utah.

Engelmann spruce leads all species in sawtimber volume, having almost 30 percent of the total. Aspen leads in growing stock volume (sawtimber and poletimber trees) with 23 percent of the total.

The National Forests grow 82 percent of all sawtimber volume on commercial forest land, while other public lands and private lands each support 9 percent.

The information about forest area and volume reported here is part of the results of the first comprehensive forest inventory of Utah. The timber survey was completed by the joint efforts of the Intermountain Forest and Range Experiment Station and the Intermountain Region of the U.S. Forest Service. Fieldwork began in 1956 and was completed in 1961.

The sampling error for the estimate of total cubic-foot volume on commercial forest land is 2.5 percent or 145,637 M cubic feet. The odds, then, are 2 to 1 that the actual volume in Utah lies in the interval 5,825,460 ± 145,637 M cubic feet.

The following tables show a general preliminary analysis of data from the forest inventory of Utah completed in 1961. A comprehensive analytical report for Utah will be published within the next year.

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[1] International $\frac{1}{4}$-inch log rule.

Table 1.--Area by land classes, Utah, 1961

Land class	Thousand acres
Commercial forest land [1]	3,999
Unproductive forest land [2]	10,701
Productive-reserved forest land [3]	165
Total forest land	14,865
Nonforest land	37,832
All land	[4] 52,697

[1] Forest land that is producing or is capable of producing crops of industrial wood and not withdrawn from timber utilization.

[2] Forest land incapable of growing crops of industrial wood because of adverse site conditions.

[3] Productive forest land withdrawn from timber utilization through statute or administrative regulation.

[4] From U.S. Bureau of the Census, Land and Water Area of the United States, 1960.

Table 2.--Area of commercial forest land, by ownership classes, Utah, 1961

Ownership class	Thousand acres
National Forest	2,783
Other Federal:	
Bureau of Land Management	155
Indian	158
Total other Federal	313
State	240
Farmer-owned	540
Other private	123
All ownerships	3,999

Table 3.--Area of commercial forest land, by stand-size and ownership classes, Utah, 1961

Stand-size class	All ownerships	National Forest	Other public	Farmer and other private
	Thousand acres			
Sawtimber stands [1]	2,629	1,857	379	393
Poletimber stands [2]	1,125	840	103	182
Sapling and seedling stands [3]	218	80	61	77
Nonstocked areas [4]	27	6	10	11
All classes	3,999	2,783	553	663

[1] Stands at least 10-percent stocked with growing stock trees with a minimum net volume per acre of 1,500 board feet (International $\frac{1}{4}$-inch log rule) in sawtimber trees (11.0 inches d.b.h. and larger).

[2] Stands failing to meet the sawtimber stand specifications, but at least 10-percent stocked with poletimber and larger (5.0 inches d.b.h. and larger) trees and with at least half the minimum stocking in poletimber trees.

[3] A stand not qualifying as either a sawtimber or poletimber stand, but having at least 10-percent stocking of trees of commercial species and with at least half the stocking in sapling and seedling trees (less than 5.0 inches d.b.h.).

[4] An area not qualifying as a sawtimber, poletimber, or a sapling-seedling stand; i.e., normally an area less than 10-percent stocked.

Table 4.--Area of commercial forest land, by forest types and ownership classes, Utah, 1961

Forest type	All ownerships	Public ownerships	Private ownerships
	Thousand acres		
Douglas-fir	646	507	139
Ponderosa pine	432	400	32
Lodgepole pine	563	531	32
Whitebark and limber pine	29	18	11
Fir-spruce	1,047	963	84
Aspen	1,280	915	365
Cottonwood	2	2	--
All types	3,999	3,336	663

Table 5.--Volume of growing stock and sawtimber on commercial forest land by species, Utah, 1961

Species	Growing stock[1]	Sawtimber
	M cubic feet	M board feet[2]
Softwoods:		
Douglas-fir	898,970	3,851,497
Ponderosa pine	433,493	1,942,891
Lodgepole pine	970,600	2,529,974
Whitebark and limber pine	57,439	220,812
White fir	313,301	1,337,666
Subalpine fir	598,927	1,709,599
Engelmann spruce	1,217,191	5,799,730
Total	4,489,921	17,392,169
Hardwoods:		
Aspen	1,333,279	2,117,183
Cottonwood	2,260	11,212
Total	1,335,539	2,128,395
All species	5,825,460	19,520,564

[1] Growing stock volume. Net volume in cubic feet of live merchantable sawtimber trees and poletimber trees from stump to a minimum 4.0-inch top inside bark.

[2] International $\frac{1}{4}$-inch log rule.

Table 6.--Volume of growing stock and sawtimber on commercial forest land by ownership classes, Utah, 1961

Ownership class	Growing stock	Sawtimber
	M cubic feet	M board feet[1]
National Forest	4,634,804	15,950,561
Other public	568,365	1,843,343
Private	622,291	1,726,660
All classes	5,825,460	19,520,564

[1] International $\frac{1}{4}$-inch log rule.

Table 7.--Volume of growing stock and sawtimber on commercial forest land by stand-size classes, Utah, 1961

Stand-size class	Growing stock	Sawtimber
	M cubic feet	M board feet[1]
Sawtimber stands	4,664,741	18,149,614
Poletimber stands	1,133,760	1,345,692
Sapling and seedling stands	26,480	23,365
Nonstocked areas	479	1,893
All classes	5,825,460	19,520,564

[1] International $\frac{1}{4}$-inch log rule.